

U.S. Patent Application Serial No. 09/864,862
Reply to Office Action dated October 6, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

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1. (Previously Presented) A method of lyophilizing material, comprising the steps of:

placing material to be processed in a chamber and varying temperature and pressure conditions to facilitate lyophilization;

creating a microwave field in the chamber;

taking temperature measurements in the chamber to detect corona discharges;

controlling microwave power and duration to vary microwave field strength in response to detected corona discharges;

trapping water vapor extracted from the material being dried.
2. (Original) A method according to claim 1, wherein the step of trapping water vapor comprises passing the water vapor through a condenser.
3. (Original) A method according to claim 1, wherein the step of trapping water vapor comprises passing the water vapor to or through a desiccant.
4. (Previously Presented) A method according to claim 1, comprising the further step of stirring the microwaves in the field with a stirrer having arc inhibiting surfaces to facilitate improved microwave dispersion in the chamber.

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5. (Original) A method according to claim 1, comprising the further step of shielding selected surfaces in the chamber from direct exposure to microwaves.

6-7. (Cancelled)

8. (Previously Presented) A method according to claim 5, wherein the chamber includes a sensor taking the temperature measurements with arc inhibiting surfaces and a stirrer with arc inhibiting surfaces.

9. (Previously Presented) A method of lyophilizing material, comprising the steps of:
placing material to be processed in a chamber under temperature and pressure conditions facilitating lyophilization;

creating a microwave field in the chamber;

taking temperature measurements in the chamber;

controlling microwave power and duration to vary microwave field strength in response to temperature measurements;

passing water vapor from the material being dried to or through a desiccant.

10. (Previously Presented) A method of lyophilizing material, comprising the steps of:
placing material to be processed in a chamber and varying temperature and pressure conditions to facilitate lyophilization;

creating a microwave field in the chamber and stirring the microwave field;

sensing corona discharges in the chamber;

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controlling microwave power and duration to vary microwave field strength in response to sensed corona discharges;

trapping water vapor extracted from the material being dried.

11. (Previously Presented) A method according to claim 10, further comprising shielding selected surfaces in the chamber from direct exposure to microwaves.
12. (Previously Presented) A method according to claim 10, further comprising providing selected surfaces in the chamber with arc inhibiting surfaces.
13. (Previously Presented) A method according to claim 10, further comprising providing a stirrer with arc inhibiting surfaces.
14. (Previously Presented) A method according to claim 13, further comprising shielding selected surfaces in the chamber from direct exposure to microwaves.